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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,531	11/14/2001	Sachin G. Deshpande	8371-146	8590

20575 7590 03/02/2005

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EXAMINER	
NEURAUTER, GEORGE C	

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,531	DESHPANDE, SACHIN G.	
	Examiner	Art Unit	
	George C. Neurauter, Jr.	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11142001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-39 are currently presented and have been examined.

Claim Objections

Claim 11, 36, and 37 are objected to because of the following informalities:

Claim 11 recites the limitation "number pair". This limitation lacks antecedent basis since the claim depends from claim 9. In order to expedite prosecution, the Examiner will assume that claim 11 depends from claim 10, which would give the claim proper antecedent basis.

Claims 36 and 37 recite the limitation "encoding a plurality of difference codes". This limitation lacks antecedent basis since the claims depend from claim 34. In order to expedite prosecution, the Examiner will assume that claims 36 and 37 depend from claim 35, which would give the claim proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-6, 12-14, 15-16, 19, 24-26, 30-33, and 38-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Bloomfield et al.

Regarding claim 1, Bloomfield discloses a system for transmitting data, comprising:

a server ("application server") operable to generate user data for use at a client station; (column 3, lines 32-43)

a spatial compressor component of the server, that is operable to inspect the user data and generate spatially compressed data therefrom; (column 3, lines 21-23)

a temporal compressor component of the server that is operable to inspect the user data and generate temporally compressed data therefrom; (column 3, line 26)

a client station ("WinStation") coupled to the server and structured to receive the spatially compressed data and the temporally compressed data; (column 3, lines 32-43)

a decoder component of the client station that is operable to transform the spatially compressed data and the temporally compressed data into a frame portion; (column 6, lines 40-41; column 8, lines 65-67) and

an image generator structured to generate an image from the frame portion and show the image in a form for use by a user of the client station. (column 5, lines 63-64)

Claim 15 is also rejected since claim 15 recites a system for transferring data that recites substantially the same limitations as recited in claim 1.

Regarding claim 2, Bloomfield discloses the system of claim 1 wherein the server and the client station are coupled to one another by a communication link, and wherein the server and the client station communicate to one another over the communication link using a remote desktop communication protocol. ("ICA"; column 1, line 66-column 2 line 43)

Claim 16 is rejected since claim 16 recites a system for transferring data that recites substantially the same limitations as recited in claim 2.

Regarding claim 5, Bloomfield discloses the system according to claim 1, further comprising one or more additional client stations each of which is coupled to the server and structured to receive the spatially compressed data and the temporally compressed data. (Figure 1, elements 105; column 1, lines 28-36)

Claim 19 is rejected since claim 19 recites a system for transferring data that recites substantially the same limitations as recited in claim 5.

Regarding claim 6, Bloomfield discloses the system according to claim 1 wherein the frame portion is a bitmap. (column 3, lines 24-25)

Regarding claim 12, Bloomfield discloses the system according to claim 1 wherein the temporal compressor creates a lossless temporal encoding of the user data. (column 8, lines 35-40)

Regarding claim 13, Bloomfield discloses the system according to claim 1, further comprising a comparison component of the server that is operable to examine the user data, the spatially compressed data, and the temporally compressed data, and to select any combination therefrom to transmit to the client station. (column 8, lines 35-42)

Regarding claim 14, Bloomfield discloses the system according to claim 13 wherein the comparison component is structured to select the smallest combination or sub-combination of the user data, the spatially compressed data, and the temporally compressed data prior to transmitting it to the client station. (column 8, lines 35-42)

Regarding claim 24, Bloomfield discloses a method of transferring data in a system including a server coupled to a thin client by a communication link that carries a remote desktop protocol ("ICA"; column 1, line 66-column 2 line 43), the method comprising:

on the server ("application server"):

generating multimedia data; (column 3, lines 32-43)

compressing the multimedia data spatially and temporally to make compressed multimedia data; (column 3, lines 21-23 and 26) and

transmitting the compressed multimedia data to the thin client; (column 3, lines 32-43)

on the thin client ("WinStation"):

receiving the compressed multimedia data from the server; (column 3, lines 32-43)

de-compressing the compressed multimedia data into useable data; column 6, lines 40-41; column 8, lines 65-67) and

presenting the useable data on the thin client. (column 5, lines 63-64)

Regarding claim 25, Bloomfield discloses the method of claim 24, further comprising storing the useable data in a cache on the thin client. (column 3, lines 24-25)

Regarding claim 26, Bloomfield discloses the method of claim 24 wherein presenting the useable data on the thin client comprises generating an image on a display screen. (column 5, lines 63-64)

Regarding claim 30, Bloomfield discloses the method of claim 24 wherein a plurality of thin clients are coupled to the server, the method further comprising transmitting the compressed multimedia data to the plurality of the thin clients coupled to the server. (Figure 1, elements 105; column 1, lines 28-36)

Regarding claim 31, Bloomfield discloses the method of claim 30 wherein transmitting the compressed multimedia data to the plurality of the thin clients comprises transmitting the compressed multimedia data to the plurality of thin clients simultaneously. (column 1, lines 28-40, specifically lines 33-39)

Regarding claim 32, Bloomfield discloses the method of claim 24 wherein de-compressing the compressed multimedia data comprises creating bitmaps of data. (column 3, lines 24-25)

Regarding claim 33, Bloomfield discloses the method of claim 24 wherein compressing the multimedia comprises lossless data compression of the multimedia data. (column 8, lines 35-40)

Regarding claim 38, Bloomfield discloses the method according to claim 24 wherein compressing the multimedia spatially and temporally comprises:

performing a procedure on the multimedia data intended to compress the multimedia spatially; (column 3, lines 21-23) and

determining if the first procedure created a result smaller than the multimedia data. (column 8, lines 35-42)

Regarding claim 39, Bloomfield discloses the method according to claim 24 wherein compressing the multimedia spatially and temporally comprises:

performing a procedure on the multimedia data intended to compress the multimedia temporally; (column 3, line 26) and

determining if the procedure created a result smaller than the multimedia data. (column 8, lines 35-42)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-4, 7, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomfield in view of US Patent 6 014 694 to Aharoni et al.

Regarding claim 3, Bloomfield discloses the system of claim 2.

Bloomfield does not expressly disclose further comprising a data server coupled to the server through a second communication link, the server and the data server communicating by using a communication protocol other than the remote desktop communication protocol used by the server and the client station, however, Bloomfield does disclose that the server and client station are connected by a communication link on a wide area network (column 1, lines 28-36).

Aharoni discloses the system further comprising a data server coupled to the server through a second communication

link, the server and the data server communicating by using a communication protocol other than the remote desktop communication protocol used by the server and the client station (column 7, lines 7-23 and 44-60, specifically lines 49-57)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that using a data server on a different communication link allows for varying degrees of bandwidth for transmitting data on a wide area network (column 7, lines 24-34; column 8, lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a client station, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Regarding claim 4, Bloomfield and Aharoni disclose the system according to claim 3.

Bloomfield does not expressly disclose wherein the data server is a video server, however, Aharoni does disclose this limitation (column 7, lines 7-23 and 44-60, specifically lines 49-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that using a video server on a different communication link allows for varying degrees of bandwidth for transmitting video data on a wide area network (column 7, lines 24-34; column 8, lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a client station, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Regarding claim 7, Bloomfield discloses the system according to claim 1.

Bloomfield does not disclose wherein the frame portion is one frame of a video, however, Aharoni does disclose this limitation (column 7, line 61-column 8, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that the invention of sending frames of video to a client station enables the server to send video data to a client station over a low bandwidth communication link (column 7, lines 24-34; column 8,

lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a client station, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Regarding claim 27, Bloomfield discloses the method of claim 24.

Bloomfield does not disclose wherein presenting the useable data on the thin client comprises showing a video clip on a display coupled to the thin client, however, Aharoni does disclose this limitation (column 7, line 61-column 8, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that the invention of showing a video clip to a thin client enables the server to send video data to a thin client over a low bandwidth communication link (column 7, lines 24-34; column 8, lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a thin client, one of ordinary skill would have been motivated to combine these references and would have considered them to be

analogous to one another based on their related fields of endeavor.

Regarding claim 28, Bloomfield and Aharoni disclose the method of claim 27.

Bloomfield does not expressly disclose wherein showing a video clip comprises showing a series of frames on the display, however, Aharoni does disclose this limitation (column 7, line 61-column 8, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that the invention of sending frames of video to a thin client enables the server to send video data to a thin client over a low bandwidth communication link (column 7, lines 24-34; column 8, lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a thin client, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Regarding claim 29, Bloomfield and Aharoni disclose the method of claim 27.

Bloomfield does not disclose wherein generating multimedia data comprises: establishing a data connection with a video server; retrieving video data from the video server; and converting the video data to display data, however, Aharoni dose disclose these limitations (column 7, line 44-column 8, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Aharoni discloses that the invention of converting video data to display data from received video data from a video server enables the server to send video data to a thin client over a low bandwidth communication link (column 7, lines 24-34; column 8, lines 3-6). In view of these specific advantages and that the references are directed to transmitting data over a communications link to a thin client, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Claims 8-9, 20-21, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomfield in view of Mairs et al.

Regarding claim 8, Bloomfield discloses the system according to claim 1.

Bloomfield does not expressly disclose wherein the user data comprises data that is for the use of the client station at a first and a second time, and wherein the temporal compressor is structured to perform an XOR operation using data for the use of the client station at the first and the second time as inputs, and produce a difference output, however, Mairs does disclose these limitations (column 16, lines 16-23 and 40-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Mairs discloses that the method of compressing data using a temporal compressor to produce a differential output enables the output data to a client station to be transmitted in an optimal matter (column 2, lines 6-10). In view of these specific advantages and that both references are directed to transmitting data from a server to a client station using temporal compression, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Claims 20 and 34 are also rejected since claims 20 and 34 recite a system and method for transmitting data that contain substantially the same limitations as recited in claim 8.

Regarding claim 9, Bloomfield and Mairs disclose the system according to claim 8.

Bloomfield discloses wherein the temporal compressor is further structured to perform a run length encoding on the difference output to create an encoded output. (column 3, line 26; column 8, lines 35-40)

Mairs also discloses this limitation (column 17, lines 1-4).

Claims 21 and 35 are also rejected since claims 21 and 35 recite a system and method from transferring data that contain substantially the same limitations as recited in claim 9.

Claims 10, 22, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomfield and Mairs as applied to claims 9, 21, and 35 above, and further in view of US Patent 5 818 877 to Tsai et al.

Regarding claim 10, Bloomfield and Mairs disclose the system according to claim 9.

Bloomfield and Mairs do not expressly disclose wherein the encoded output comprises one or more number pairs, wherein a first number of the number pair indicates the number of zeros in a current run, and wherein a second number of the number pair indicates a symbol following the last zero in the current run,

however, Tsai does disclose these limitations (column 7, line 45-column 8, line 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Tsai discloses that using number pairs in an encoded output allows for greater compression (column 8, lines 16-20). In view of these specific advantages and that the references are directed to using run length encoding to create an encoded output, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Claims 22 and 36 are also rejected since claims 22 and 36 recite a system and method from transferring data that contain substantially the same limitations as recited in claim 10.

Claims 11, 23, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomfield, Mairs, and Tsai as applied to claims 10, 22, and 36 above, and further in view of US Patent 6 259 810 to Gill et al.

Regarding claim 11, Bloomfield, Mairs, and Tsai disclose the system according to claim 10, as assumed above.

Bloomfield, Mairs, and Tsai do not expressly disclose wherein if a last number of a row in the difference output to be

run length encoded is a zero, for the last number pair in the encoded output, a first number of the last number pair indicates one less than the number of zeros in a current run, however, Gill does disclose these limitations (column 7, line 66-column 8, line 9; column 10, lines 4-46, specifically lines 35-46)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Gill discloses that the invention allows for greater compression of data (column 10, lines 13-14). In view of these specific advantages and that the references are directed to using run length encoding to create an encoded output, one of ordinary skill would have been motivated to combine these references and would have considered them to be analogous to one another based on their related fields of endeavor.

Claims 23 and 37 are also rejected since claims 23 and 37 recite a system and method from transferring data that contain substantially the same limitations as recited in claim 11.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art teaches the state of the art in transmitting data from a server to a client station including using a remote desktop communication protocol:

US Patent 6 263 363 to Rosenblatt et al;

US Patent 6 538 667 to Duursma et al;

US Patent 6 633 314 to Tuli;

US Patent 6 760 748 to Hakim;

US Patent 6 763 501 to Zhu et al;

US Patent 6 784 855 to Matthews et al;

US Patent 6 842 777 to Tuli;

Microsoft Corporation. "The DVD Playback Function Does Not Work During a Remote Assistance Session", Troubleshooting Article Q302899, released 18 October 2001, 1 page;

IPC Corporation. WinConnect Press release. Released 24 October 2001, <http://www.ipc.com.sg/press/24102001_WinConnect.htm>, 3 pages;

Citrix Systems, Inc. "ICA Technical Paper", publicly posted 16 March 1996, <http://web.archive.org/web/19971024035710/http://www.citrix.com/technology/icatech.htm>, 9 pages.

Lee, Oo Gin. "Software gives old PCs new lease of life", Straits Times, 27 October 2001,

<http://it.asia1.com.sg/newsdaily/news001_20011027.html>, 2 pages.

The following prior art teaches the state of the art in compressing bitmap or video data:

US Patent Application Publication 20020029285 to Collins;

US Patent 4 316 222 to Subramaniam;

US Patent 6 057 857 to Bloomfield;

US Patent 6 058 219 to Partridge et al;

US Patent 6 081 623 to Bloomfield et al;

US Patent 6 118 899 to Bloomfield et al;

US Patent 6 172 683 to Bloomfield;

US Patent 6 304 928 to Mairs et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is (571) 272-3918. The examiner can normally be reached on Monday through Friday from 9AM to 5:30PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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